



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,396	02/26/2002	Kenichi Miyoshi	L9289.02123	3615
24257	7590	10/06/2005	EXAMINER	
STEVENS DAVIS MILLER & MOSHER, LLP			TRAN, TUAN A	
1615 L STREET, NW			ART UNIT	
SUITE 850			PAPER NUMBER	
WASHINGTON, DC 20036			2682	

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/069,396	<b>Applicant(s)</b> MIYOSHI ET AL.	
	<b>Examiner</b> Tuan A. Tran	<b>Art Unit</b> 2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                        |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____   |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akaiwa et al. (5,710,995) in view of Scherzer (6,347,234) or Kohno et al. (6,763,062).

Regarding claims 10 and 12, Akaiwa discloses a radio apparatus (See figs. 1) comprising: a fading correlation monitor 17 that monitors a fading correlation of radio waves received through a plurality of antenna elements 11, 12 (See fig. 1 and col. 3 line 63 to col. 4 line 17); a reception method selector 18, according to the fading correlation monitored by the fading correlation monitor 17, selects one of: a directional reception whereby directivity is formed to received signals, and diversity reception whereby a plurality of signal sequences are combined or selected and received (See fig. 1 and col. 2 lines 17-21, col. 4 lines 18-44); a directional receiver 13 that executes the directional reception when the reception method selector 18 selects the directional reception, and a diversity receiver 14 that executes the diversity reception when the reception method selector 18 selects the diversity reception (see fig. 1 and col. 2 lines 15-21); and a demodulator that demodulates signals output from the directional receiver 13 or the

Art Unit: 2682

diversity receiver 14 (See fig. 1 and col. 4 lines 23-26). However, Akaiwa does not mention that the radio apparatus is a radio base station that utilizes directional/diversity reception/transmission for both uplink and downlink. Scherzer teaches a radio base station that utilizes diversity reception/transmission for both uplink and downlink (See fig. 1) and Kohno teaches a radio base station that utilizes directional reception/transmission for both uplink and downlink (See fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the radio apparatus as disclosed by Akaiwa, in view of Scherzer and Kohno, as a radio base station that utilizes directional/diversity reception/transmission for both uplink and downlink for the advantage of expanding the capability of the system to various radio communication apparatuses as well as enhancing the quality of service.

Claims 17-18 are rejected for the same reasons as set forth in claims 10 and 12, as method.

Regarding claims 11 and 13, Akaiwa & Scherzer or Kohno disclose as cited in claims 10 and 12. Akaiwa further discloses the selector 18 selects the directional reception/transmission when the fading correlation is greater than a predetermined threshold value and selects the diversity reception/transmission when the fading correlation is less than the predetermined threshold value (See fig. 1 and col. 4 lines 18-44).

Regarding claim 14, Akaiwa & Scherzer or Kohno disclose a radio base station as cited in claim 12 wherein the diversity transmission inherently transmits signals at a lower transmission power than by the directional transmission.

Art Unit: 2682

Regarding claim 15, Akaiwa & Scherzer or Kohno disclose as cited in claim 10, Akaiwa further discloses the fading correlation monitor 17 monitors the fading correlation with reference to signal magnitude caused by time-variant fading wherein fading is inherently estimated by angular spread condition (See col. 3 line 63 to col. 4 line 13).

Regarding claim 16, Akaiwa & Scherzer or Kohno disclose as cited in claim 10, Akaiwa further discloses the fading correlation monitor 17 calculates a fading correlation value and monitors the fading correlation with reference to the fading correlation value calculated (See col. 3 line 63 to col. 4 line 44).

### ***Response to Arguments***

Applicant's arguments with respect to claims 10-18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan Tran** whose telephone number is **(571) 272-7858**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Nick Corsaro**, can be reached at **(571) 272-7876**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Art Unit: 2682

Washington, D.C. 20231

**or faxed to:**

**(571) 273-8300 (for Technology Center 2600 only)**

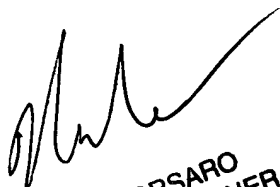
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Tuan Tran

AU 2682



NICK CORSARO  
PRIMARY EXAMINER